What is claimed is:

1. A digital topography imaging system comprising;

a) an x-ray emitting source;

b) a sample holder;

c) a charge coupled device (CCD) camera with antiblooming circuitry which reduces pixel image corruption due to CCD camera pixel overloading wherein the camera converts x-ray signals to electrical signals without the use of phosphor and measures reflection profiles from the x-ray emitting source after x-rays are passed through a sample; and

d) a means for acquiring and displaying images of a sample;

wherein x-rays from the x-ray emitting source pass through a sample, and are converted by the CCD camera into electrical signals so that the resulting x-ray reflection profiles are measured and the structure of the sample is acquired and displayed.

2. The digital topography imaging system of claim 1 wherein the CCD camera has a pixel size of less than 10 μm.

3. The digital topography imaging system of claim 1 wherein the x-ray source has a shutter, allowing for variable exposure times.

4. A method for digital topography imaging comprising;

a) placing a sample in the sample holder of thesystem of claim 1;

b) positioning the sample holder between the x-ray emitting source and the CCD camera;

c) exposing the sample to x-rays from the x-ray emitting source;

d) measuring the x-ray reflection angles of the x-rays that are passed through the sample from the x-ray emitting source with the CCD camera to form a raw image; and

e) processing the raw image measured by the CCD camera with a computer program to provide a clearer image of the crystal structure of the sample.

5. The method of claim 4 wherein raw images provided by the CCD camera are computer processed using wavelet transforms, and histograms to provide clear images of the sample.

6. The method of claim 5 wherein the raw images are computer processed using a multi step method comprising;

a) subtracting a dark current image of equal exposure to remove dark current noise;

b) removing electric ripple noise with a multiple filter wavelet transform;

c) using a histogram cutoff filter to cut remaining background noise;

d) using a median filter to clean the speckle nature of the data;

e) using a wavelet transform to enhance resolution;

f) filtering remaining low level noise with a histogram filter; and

g) digitizing the data into an integer range wherein each numerical value is associated with a corresponding color, so that clear images of the sample are displayed.

7. The method of claim 6 wherein the multiple filter wavelet transform comprises a low frequency decomposition filter, a high frequency decomposition filter, a low

frequency reconstruction filter and a high frequency reconstruction filter.

8. The method of claim 4 further comprising animating the processed images to show the diffraction of crystal volume versus the oscillation angle.

9. The method of claim 4 wherein the digital topography imaging system may be employed to determine the crystalline structure of a sample.